

Hypertension

By د / صفوة

Hypertension is a number

Blood pressure > 140/90

Grades of HTN

- Mild: 140-159 & 90-99
- Moderate: 160-179 & 100-109
- Severe: 180 → & 110 →
- ↳ Mild: life style modification for? months → if no response or move to moderate / severe → adds drugs accordingly
- ↳ Moderate: life style modification + start outpatient drugs → if no responses add another drug
- ↳ Severe: start emergency medication then life style modification + 2 drugs

Target blood pressure in emergency drugs

$\frac{1}{3}$ Pulse pressure (systolic – diastolic)

For example

220/130

Pulse pressure = 220-130 = 90

$90/3 = 30$

220-30 = 190

130-30=100

Target blood pressure = 190/100

This to be done over 1 hour

IV anti-hypertensive

Exclusive done in ICU (cardiac ICU)

Include

Glyceryl trinitrate \Rightarrow Tridil, Nitronal, Nitrostat (50mg/10ml)

Na nitroprusside \Rightarrow Nitropress, Nipruss, Niprid (50mg vial)

Severe HTN

According

1- Symptomatic

- Severe headache
- Vomiting
- Blurring of vision
- Dizziness

\rightarrow Fundus examination of the eye (refer to ophthalmologist)

\hookrightarrow Papilledema

- Yes = ICU admission + IV antihypertensive
- No = as asymptomatic

2- Asymptomatic

\mathcal{R} *Lasix 40* amp up to 3 (total of 120mg)

Contraindicated if

- 1- Old Age
 - 2- DM
 - 3- Dehydrated
- Affect systolic blood pressure & preload
 - Take $\frac{1}{2}$ hour for effect

\mathcal{R} *Capoten 50* sublingual \rightarrow up to 6 tabs (300 mg)

- It affects diastolic blood pressure & afterload
- Take $\frac{1}{2}$ hour for effect

\mathcal{R} *Nitroderm patch*

- 5 or 10 according to blood pressure
- Takes 1 hour for effect
- Advantage: اول ماتشيلها الضغط بيوقف عند المستوي الي انت نزلت عنده

\mathcal{R} *Adalat/Epilat retard* sublingual

- 1 hour for full effect
- Very effective antihypertensive
- Can cause sudden death (unknown cause)

After stabilization of blood pressure

℞ Outpatient drugs on 2 medications

Outpatient treatment

Drugs include: A, B, C, D

First: A ⇒ 2 groups

ACE

Include

Captopril

- Short acting for 6-8 hours
- Not suitable for outpatient treatment
- والي يكتبه علاج في البيت يبقي مستاهل انه يقف في ميدان عام و الناس الي عندهم ضغط يرموه بالي في رجليهم
- Trade names: **Capoten**, **Capotril**, **Hypopress** (25 & 50 tab)

Ramipril

- Long acting for 24 hour
- Trade name: **Ramipril**, **Tritace**, **Corpril** (2.5, 5, 10 tabs)

Lisinopril

- Long acting for 24 hour
- Trade name: **Lisinopril**, **Zestril**, **Lisopril**, **Sinopril** (5, 10 tabs)

Fosinopril

- Trade name: **Monopril** (10, 20 tab)

ARBs

The only disadvantage is their expensive price

Include

- Losartan: **Losartan**, **Cozaar**, **Amosar**, **Losar** (25, 50, 100 tab)
- Valsartan: **Tareg**, **Disartan** (80, 160, 320 tab)
- Candesartan: **Atacand**, **Candesar** (4, 8, 16 tab)
- Telmisartan: **Micardis** (40, 80)

CCB

- Amlodipine: ~~A~~mlodipine, ~~A~~lkapress, Norvasc, RegCor (5, 10 tab)
- Lacidipine: ~~L~~acipil, ~~L~~acidaC (2, 4 tab)

Diuretics

- The only used is thiazides in combination with other groups
- ACEi + D: Capozide, Tritace Comp, Monozide 10 & 20, Zestoretic
- ARBs + D:
 - Losartan 50: ~~L~~osartan Comp, HyZaar, Hysartan, Lora-Z, Losar Plus
 - Losartan 100: FortZaar, Modazar, Kanzar-H, Remtozar-H
 - Valsartan: Co-Tareg, Disartan Co (80, 160 tab)
 - Candesartan: ~~A~~taCand Plus 16

BB

- Mainly for some special problems (as in Ischemic Heart disease)
- Include
 - ~~A~~tenolol, ~~A~~teno 50, 100
 - ConCor 5, 10
- BB + thiazides e.g. ~~C~~oncor plus is the worst combination as they have the same side effects

Special problems with Hypertension

HTN with H.F

- ACEi, ARBs \Rightarrow safe, used to \downarrow afterload
- BB: with caution only approved is ConCor & Carvedilol
- CCB: the only approved is ~~A~~mlodipine as it has -ve inotropic effect (no reflex tachy)

HTN with DM

- ACEi & ARBs \rightarrow first choice protect kidney from diabetic nephropathy
As \rightarrow V.D of efferent \rightarrow \downarrow proteinuria
- CCB \rightarrow safe
- BB selective (ConCor) to leave the symptoms of hypoglycemia (tachycardia, sweating, tremors) \rightarrow selective BB \rightarrow act as non selective
- الكلام الجديد يقول كل ادوية الضغط بتحمي من ال nephropathy بشرط ان يكون الضغط متظبط

HTN with CKD

- ACEi
مشكلتها انها بتقلل ال GFR عن طريق توسيع ال efferent arterioles فعلى ان كده لها طريقتين

Science ده الي المفروض يتعمل

- عمل baseline creatinine level وادي ال ACEI لمدة اسبوع و اعيد ال level of creatinine لو ال level زاد مرة و نص اشوف
- فيه حاجة تانية ممكن تكون السبب في علو ال creatinine زي ال UTI او other drugs لو لا غير ال مجموعة لو آه اكمل علي ACEI لمدة اسبوع كمان و اشوف ال level بيعلني تاني و لا لا
- لا هكمل عليها واتابع ال level of creatinine
- لو زاد هغير ال anti-hypertensive
- شغل السوق: ما بنديش ال ACEi في حالة ال CKD
- ARBs: Safe up to creatinine 3 (some say up to 5)
- CCB: Amlodipine (Amlipress)
- BB: titration as it's mainly excreted in renal يعني اقلل الجرعة الي كان ماشي عليها

HTN with IHD

اخلينه يقلب علي BB او CCB علشان هوه كده هياخد الادوية دي علشان تقلل ال ischemia وتقلل work of HT

- BB as Concor
- CCB as Amlodipine

Others

- α Blockers: Minipress (1, 2mg tab) HTN with BPH or after failure with other medication
- Central acting: Aldomet \Rightarrow HTN with pregnancy
- Direct V.D: Hydralazine, Na Nitroprusside, Minoxidil, Diazoxide

Refractory HTN

Blood pressure > 140/90 in patient with 3 or more antihypertensive drugs including diuretic

Causes

- Drugs
 - Non compliant
 - Insufficient dose
- Renal
 - Bilateral RAS 90% of 2ry causes of HTN
 - Parenchymatous renal disease
- Endocrinal
 - Pheochromocytoma
 - Hyperthyroidism
 - Acromegaly
- Vasculitis
- Cortication of Aorta

Any blood pressure in patient < 30 years old is 2ry until proved otherwise

Outpatient treatment

د/ فلان الفلاني أخصائي طب و جراحة حاصل علي سنة امتياز في جامعة ميونيف عضو نقابة الاطباء المصرية حاصل علي 30 شهادة موثقة من المؤتمرات	اسم المريض : السن : الضغط : 90/170..... درجة الحرارة : ملاحظات :
--	--

R Zestril 10 tab

قرص علي الربق صباحا يوميا

مع تقليل الملح والمسبك في الاكل وتقليل الشاي والقهوة و
المشروبات الغازية والكحوليات وايقاف التدخين وممارسة الرياضة
المشي 1/2 ساعة يوميا و انقاص الوزن الزائد والاكثر من اكل
الخضروات والفواكه

العنوان: الي يسأل مايتعوش
التليفون: مقدم علي خط ارضي بقالى 3 سنين و لسة ماطلعتش في القرعة
المحمول: مابديش ارقامى الخاصة لحد علشان المعاكسات